

In the claims:

1. A packet transfer equipment that transfers the received packet to another node characterized by that the packet transfer equipment specifies several types of information contained in said received packet, 5 inquires of an external server about one or more type of information related to the transfer method of said received packet and resolves the transfer method of said received packet according to one or more type of information obtained.

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2. A packet transfer equipment that transfers the received packet to another node characterized by that the packet transfer equipment specifies one or more type of information in said received packet that is determined for each of said received packet, inquires of 5 an external server about one or more type of information related to the transfer method of said received packet and resolves the transfer method of said received packet according to one or more type of information obtained.

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3. A packet transfer equipment that transfers the received packet to another node characterized by that the packet transfer equipment specifies one or more type of information in said received packet, 5 inquires of an external server about several types of

information related to the transfer method of said received packet and resolves the transfer method of said received packet according to several types of information obtained.

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4. A packet transfer equipment that transfers the received packet to another node characterized by that the packet transfer equipment specifies one or more type of information contained in said received packet, inquires of an external server about one or more type of information related to the transfer method of said received packet that is determined for each of said received packet and resolves the transfer method of said received packet according to one or more type of information obtained.

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10 5. A packet transfer equipment as set forth in claim 1 wherein:

the information resolved by said external server as the information related to the packet transfer method contains at least one of the information related to rewriting of the information contained in the received packet, the information related to the information added to the received packet, the information related to the information deleted from the received packet, the information related to the control method of the route through which the received packet is transferred and the

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information related to the resource control method for the route through which the received packet is transferred.

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6. A packet transfer equipment that transfers the received packet to another node comprising:

5 a packet information extraction section that extracts several types of information contained in said received packet, and

10 a packet transfer method resolution section that specifies said several types of information extracted by said packet information extraction section and inquires of an external server about one or more type of information related to the transfer method of said received packet and resolves the transfer method of said received packet according to one or more type of information obtained.

7. A packet transfer equipment that transfers the received packet to another node comprising:

5 a packet information extraction section that extracts one or more type of information contained in said received packet that is determined for each of said received packet, and

15 a packet transfer method resolution section that specifies said one or more type of information extracted by said packet information extraction section, inquires

10 of an external server about one or more type of information related to the transfer method of said received packet and resolves the transfer method of said received packet according to one or more type of information obtained.

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8. A packet transfer equipment that transfers the received packet to another node comprising:

a packet information extraction section that extracts one or more type of information contained in said received packet, and

a packet transfer method resolution section that specifies said one or more type of information extracted by said packet information extraction section, inquires of an external server about several types of information related to the transfer method of said received packet and resolves the transfer method of said received packet according to several types of information obtained.

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9. A packet transfer equipment that transfers the received packet to another node comprising:

a packet information extraction section that extracts one or more type of information contained in said received packet and

a packet transfer method resolution section that specifies said one or more type of information extracted by said packet information extraction section, inquires

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of an external server about one or more type of
10 information related to the transfer method of said
received packet that is determined for each of said
received packet and resolves the transfer method of said
received packet according to one or more information
obtained.

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10. A packet transfer equipment as set forth in claim
6 wherein:

the information resolved by said external server
as the information related to the packet transfer method
5 contains at least one of the information related to
rewriting of the information contained in the received
packet, the information related to the information added
to the received packet, the information related to the
information deleted from the received packet, the
information related to the control method of the route
10 through which the received packet is transferred and the
information related to the resource control method for
the route through which the received packet is
transferred.

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11. A packet transfer equipment as set forth in claim
6 wherein:

said packet information extraction section
extracts the information encoded over two or more
5 packets.

12. A packet transfer equipment as set forth in claim
6 further comprising

5 a packet transfer method storage table that
temporarily stores the information related to the packet
transfer method resolved by said packet transfer method
resolution section and characterized by that

10 said packet transfer method resolution section
checks whether said packet transfer method storage table
stores any information related to the transfer method of
said received packet before inquiring of an external
server about information related to the transfer method
of said received packet and, if said packet transfer
method storage table stores the information related to
the transfer method of said received packet, reads out
15 the information related to the transfer method of said
received packet from said packet transfer method storage
table and thereby resolves the transfer method of said
received packet.

13. A packet transfer equipment as set forth in claim
6 wherein:

5 said packet transfer method resolution section
uses the information contained in said received packet
extracted by said packet information extraction section
to create the FQDN and/or the IP address uniquely
indicating the information contained in said received

packet.

14. A packet transfer equipment as set forth in claim
6 wherein:

5 said packet transfer method resolution section
 uniquely recognizes the transfer method of said received
 packet based on the FQDN or the IP address resolved with
 the domain name system server.

15. A packet transfer equipment as set forth in claim
6 wherein:

5 said packet transfer method resolution section
 resolves the FQDN or the IP address uniquely indicating
 the packet transfer method corresponding to the
 information contained in said received packet extracted
 by said packet information extraction section by
 repeating the request for resolution of the FQDN or the
 IP address one or more times to the domain name system
10 server.

16. A packet transfer equipment as set forth in claim
6 wherein

5 said packet transfer method resolution section
 uses the information contained in said received packet
 extracted by said packet information extraction section
 to create the FQDN uniquely indicating the information
 contained in said received packet, inquires of the

domain name system server, using said FQDN as the key,
about the IP address corresponding to said FQDN,
10 inquires of said domain name system server, using the IP
address corresponding to said FQDN replied by said
domain name system server as the key, about the FQDN
corresponding to said IP address and uniquely recognizes
the transfer method of said received packet based on the
15 FQDN corresponding to said IP address replied from said
domain name system server.

17. A packet transfer equipment as set forth in claim
6 further comprising:

a service input section to set the type of the
service to be rendered and

5 an extracted packet information conversion
section to make conversion to the type of information
contained in said received packet extracted by said
packet information extraction section corresponding to
said type of service set to said service input section.

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18. A packet transfer equipment as set forth in claim
6 further comprising:

a resource control request section that, if the
resource control for other nodes in the network is
5 required as additional information of the packet
transfer method resolved by said packet transfer method
resolution section, makes a request for resource control

of said other nodes.

19. A packet transfer method resolution server characterized by that,

upon a request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying several types of information contained in said received packet, one or more type of information related to the transfer method of said received packet is replied to said packet transfer equipment.

10 20. A packet transfer method resolution server characterized by that,

upon a request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information contained in said received packet that is determined for each of said received packet, one or more type of information related to the transfer method of said received packet is replied to said packet transfer equipment.

10 21. A packet transfer method resolution server characterized by that,

upon a request from the packet transfer equipment
that transfers the received packet to another node
5 inquiring the information related to the transfer method
of said received packet and specifying one or more type
of information contained in said received packet,
several types of information related to the transfer
method of said received packet are replied to said
10 packet transfer equipment.

22. A packet transfer method resolution server
characterized by that,

upon a request from the packet transfer equipment
that transfers the received packet to another node
5 inquiring the information related to the transfer method
of said received packet and specifying one or more type
of information contained in said received packet, one or
more type of information related to the transfer method
of said received packet that is determined for each of
10 said received packet is replied to said packet transfer
equipment.

23. A packet transfer method resolution server as set
forth in claim 19 wherein:

the information replied to said packet transfer
equipment as the information related to the packet
5 transfer method contains at least one of the information
related to rewriting of the information contained in the

10 received packet, the information related to the information added to the received packet, the information related to the information deleted from the received packet, the information related to the control method of the route through which the received packet is transferred and the information related to the resource control method for the route through which the received packet is transferred.

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24. A packet transfer method resolution server comprising:

5 a packet transfer method database where the correspondences between several types of information contained in the packet and one or more type of information related to the packet transfer method are registered, and

10 a packet transfer method resolution request acceptance section that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying several types of information contained in said received packet, 15 refers to said packet transfer method database and replies one or more type of information related to the transfer method of said received packet to said packet transfer equipment.

25. A packet transfer method resolution server comprising:

a packet transfer method database where the correspondences between one or more type of information contained in the packet and one or more type of information related to the packet transfer method are registered, and

a packet transfer method resolution request acceptance section that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information contained in said received packet that is determined for each of said received packet, refers to said packet transfer method database and replies, to said packet transfer equipment, one or more type of information related to the transfer method of said received packet.

26. A packet transfer method resolution server comprising:

a packet transfer method database where the correspondences between one or more type of information contained in the packet and several types of information related to the packet transfer method are registered,

and

10 a packet transfer method resolution request acceptance section that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information contained in said received packet, refers to said packet transfer method database and replies, to said packet transfer equipment, several types of information related to the transfer method of said received packet.

27. A packet transfer method resolution server comprising:

5 a packet transfer method database where the correspondences between one or more type of information contained in the packet and one or more type of information related to the packet transfer method are registered, and

10 a packet transfer method resolution request acceptance section that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information contained in said received

15 packet, refers to said packet transfer method database and replies, to said packet transfer equipment, one or more type of information related to the transfer method of said received packet that is determined for each of said received packet.

20 28. A packet transfer method resolution server as set forth in claim 24 wherein:

5 the information replied to said packet transfer equipment as the information related to the packet transfer method contains at least one of

 the information related to rewriting of the information contained in the received packet, the information related to the information added to the received packet, the information related to the information deleted from the received packet, the information related to the control method of the route through which the received packet is transferred and the information related to the resource control method for the route through which the received packet is transferred.

10 29. A packet transfer method resolution server as set forth in claim 24 further comprising:

5 a resource information collection section that collects the resource information in the network and an entry rewriting section that rewrites entries

registered to said packet transfer method database based on the resource information in said network collected by said resource information collection section.

30. A packet transfer method resolution server as set forth in claim 24 further comprising:

5 a resource control request section that, if the resource control for other nodes in the network is necessary, sends a request for resource control of said other nodes as the additional information of said transfer method when said packet transfer method resolution request acceptance section replies the information related to said transfer method in response 10 to said packet transfer method resolution request from said packet transfer equipment.

31. A packet transfer method resolution server as set forth in claim 24 further comprising:

5 a packet transfer policy description section that describes the policy to control the information related to said transfer method replied by said packet transfer method resolution request acceptance section in response 10 to said packet transfer method resolution request from said packet transfer equipment, and

an entry rewriting section that rewrites entries registered to said packet transfer method database based 10 on said policy described in said packet transfer policy

description section.

32. A DNS server comprising:

an IP address/FQDN correspondence database having the IP address corresponding to the FQDN and the FQDN corresponding to the IP address registered where the 5 FQDN or the IP address in the packet transfer equipment that transfers the received packet to another node uniquely indicating several types of information contained in said received packet and the FQDN or the IP address uniquely indicating one or more type of 10 information related to the transfer method of said received packet are associated, and

a DNS resolution request acceptance section that accepts the IP address resolution request inquiring the IP address corresponding to the FQDN from the packet 15 transfer equipment that transfers the received packet to another node, refers to said IP address/FQDN correspondence database and replies the IP address corresponding to said FQDN to said packet transfer equipment as well as accepts the FQDN resolution request 20 inquiring the FQDN corresponding to the IP address from said packet transfer equipment, refers to said IP address/FQDN correspondence database and replies the FQDN corresponding to said IP address to said packet transfer equipment.

33. A DNS server comprising:

an IP address/FQDN correspondence database having
the IP address corresponding to the FQDN and the FQDN
corresponding to the IP address registered where the
5 FQDN or the IP address in the packet transfer equipment
that transfers the received packet to another node
uniquely indicating one or more type of information in
said received packet determined for each of said
received packet and the FQDN or the IP address uniquely
10 indicating one or more type of information related to
the transfer method of said received packet are
associated, and

a DNS resolution request acceptance section that
accepts the IP address resolution request inquiring the
15 IP address corresponding to the FQDN from the packet
transfer equipment that transfers the received packet to
another node, refers to said IP address/FQDN
correspondence database and replies the IP address
corresponding to said FQDN to said packet transfer
20 equipment as well as accepts the FQDN resolution request
inquiring the FQDN corresponding to the IP address from
said packet transfer equipment, refers to said IP
address/FQDN correspondence database and replies the
FQDN corresponding to said IP address to said packet
25 transfer equipment.

34. A DNS server comprising:

an IP address/FQDN correspondence database having
the IP address corresponding to the FQDN and the FQDN
corresponding to the IP address registered where the
5 FQDN or the IP address in the packet transfer equipment
that transfers the received packet to another node
uniquely indicating one or more type of information in
said received packet and the FQDN or the IP address
uniquely indicating several types of information related
10 to the transfer method of said received packet are
associated, and

a DNS resolution request acceptance section that
accepts the IP address resolution request inquiring the
IP address corresponding to the FQDN from the packet
15 transfer equipment that transfers the received packet to
another node, refers to said IP address/FQDN
correspondence database and replies the IP address
corresponding to said FQDN to said packet transfer
equipment as well as accepts the FQDN resolution request
20 inquiring the FQDN corresponding to the IP address from
said packet transfer equipment, refers to said IP
address/FQDN correspondence database and replies the
FQDN corresponding to said IP address to said packet
transfer equipment.

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35. A DNS server comprising:

an IP address/FQDN correspondence database having
the IP address corresponding to the FQDN and the FQDN

corresponding to the IP address registered where the
5 FQDN or the IP address in the packet transfer equipment
that transfers the received packet to another node
uniquely indicating one or more type of information in
said received packet and the FQDN or the IP address
uniquely indicating one or more type of information
10 determined for each of said received packet related to
the transfer method of said received packet are
associated, and

15 a DNS resolution request acceptance section that
accepts the IP address resolution request inquiring the
IP address corresponding to the FQDN from the packet
transfer equipment that transfers the received packet to
another node, refers to said IP address/FQDN
correspondence database and replies the IP address
corresponding to said FQDN to said packet transfer
20 equipment as well as accepts the FQDN resolution request
inquiring the FQDN corresponding to the IP address from
said packet transfer equipment, refers to said IP
address/FQDN correspondence database and replies the
FQDN corresponding to said IP address to said packet
25 transfer equipment.

36. A DNS server as set forth in claim 32 wherein:
the FQDN or the IP address replied by said DNS
resolution request acceptance section to said packet
transfer equipment uniquely indicates the information

5 related to one or more arbitrary transfer method
contained in the processing method of rewriting,
addition and deletion for one or more arbitrary piece of
information in said received packet and/or the route
through which said received packet is transferred and
10 the resource control method for said route.

37. A DNS server as set forth in claim 32 further
comprising:

a resource information collection section that
collects the resource information in the network and
5 an entry rewriting section that rewrites entries
registered to said IP address/FQDN correspondence
database based on the resource information in said
network collected by said resource information
collection section.

10 38. A DNS server as set forth in claim 32 further
comprising:

a resource control request section that, if the
resource control for other nodes in the network is
5 judged necessary, sends a request for resource control
to said other nodes when said DNS resolution request
acceptance section replies the IP address corresponding
to said FQDN and the FQDN corresponding to said IP
address in response to said IP address resolution
request and said FQDN resolution request from said

packet transfer equipment.

39. A DNS server as set forth in claim 32 further comprising:

a packet transfer policy description section that describes the policy to control the IP address corresponding to said FQDN and the FQDN corresponding to said IP address replied by said DNS resolution request acceptance section in response to said IP address resolution request and said FQDN resolution request from said packet transfer equipment, and

10 an entry rewriting section that rewrites entries registered to said IP address/FQDN correspondence database based on said policy described in said packet transfer policy description section.

40. A network system comprising

a packet transfer equipment and a packet transfer method resolution server or a DNS server, and characterized by that the policy to guide the request packet from the user requesting contents or application services to the server of a particular provider is described in said packet transfer method resolution server or said DNS server.

41. A network system comprising

a packet transfer equipment and a packet transfer

method resolution server or a DNS server, and
characterized by that the policy to execute the transfer
5 control of the request packet from the user requesting
said contents or application services provided by the
contents or application service provider based on the
context information of said user is described in said
packet transfer method resolution server or said DNS
10 server.

42. A program to have a computer function as a packet transfer equipment that transfers the received packet to another node comprising:

5 a packet information extraction function to extract several types of information contained in said received packet, and

10 a packet transfer method resolution function that inquires of an external server about one or more type of information related to the transfer method of said received packet with specifying said several types of extracted information and resolves the transfer method of said received packet according to one or more type of information obtained.

43. A program to have a computer function as a packet transfer equipment that transfers the received packet to another node comprising:

a packet information extraction function to

5 extract one or more type of information in said received
packet determined for each of said received packet and
a packet transfer method resolution function that
inquires of an external server about one or more type of
information related to the transfer method of said
10 received packet with specifying said one or more type of
extracted information and resolves the transfer method
of said received packet according to one or more type of
information obtained.

44. A program to have a computer function as a packet
transfer equipment that transfers the received packet to
another node comprising:

5 a packet information extraction function to
extract one or more type of information contained in
said received packet, and
a packet transfer method resolution function that
inquires of an external server about several types of
information related to the transfer method of said
10 received packet with specifying said one or more type of
extracted information and resolves the transfer method
of said received packet according to several types of
information obtained.

45. A program to have a computer function as a packet
transfer equipment that transfers the received packet to
another node comprising

5 a packet information extraction function to
extract one or more type of information contained in
said received packet, and

10 a packet transfer method resolution function that
inquires of an external server about one or more type of
information related to the transfer method of said
received packet that is determined for each of said
received packet with specifying said one or more type of
extracted information and resolves the transfer method
of said received packet according to one or more type of
information obtained.

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46. A program to have a computer function as a packet
transfer method resolution server provided with a packet
transfer method database where the correspondences
between several types of information contained in the
5 packet and one or more type of information related to
the packet transfer method are registered comprising:

10 a packet transfer method resolution request
acceptance function that accepts the packet transfer
method resolution request from the packet transfer
equipment that transfers the received packet to another
node inquiring the information related to the transfer
method of said received packet and specifying several
types of information contained in said received packet,
refers to said packet transfer method database and
15 replies to said packet transfer equipment one or more

type of information related to the transfer method of said received packet.

47. A program to have a computer function as a packet transfer method resolution server provided with a packet transfer method database where the correspondences between one or more type of information contained in the 5 packet and one or more type of information related to the packet transfer method are registered comprising:

10 a packet transfer method resolution request acceptance function that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information in said received packet determined for each of said received packet, refers to 15 said packet transfer method database and replies to said packet transfer equipment one or more type of information related to the transfer method of said received packet.

48. A program to have a computer function as a packet transfer method resolution server provided with a packet transfer method database where the correspondences between one or more type of information contained in the 5 packet and several types of information related to the

packet transfer method are registered comprising:

10 a packet transfer method resolution request acceptance function that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information contained in said received packet, refers to said packet transfer method database and replies several types of information related to the transfer method of said received packet to said packet transfer equipment.

49. A program to have a computer function as a packet transfer method resolution server provided with a packet transfer method database where the correspondences between one or more type of information contained in the 5 packet and one or more type of information related to the packet transfer method are registered comprising:

10 a packet transfer method resolution request acceptance function that accepts the packet transfer method resolution request from the packet transfer equipment that transfers the received packet to another node inquiring the information related to the transfer method of said received packet and specifying one or more type of information in said received packet, refers to said packet transfer method database and replies to

15 said packet transfer equipment one or more type of information related to the transfer method of said received packet that is determined for each of said received packet.

50. A program to have a computer function as a DNS server provided with an IP address/FQDN correspondence database where the IP address corresponding to the FQDN and the FQDN corresponding to the IP address are registered and the FQDN or the IP address in the packet transfer equipment that transfers the received packet to another node uniquely indicating several types of information contained in said received packet and the FQDN or the IP address uniquely indicating one or more type of information related to the transfer method of said received packet are associated comprising:

15 a function that accepts the IP address resolution request inquiring the IP address corresponding to the FQDN from the packet transfer equipment that transfers the received packet to another node, refers to said IP address/FQDN correspondence database and replies the IP address corresponding to said FQDN to said packet transfer equipment, and

20 a function that accepts the FQDN resolution request inquiring the FQDN corresponding to the IP address from said packet transfer equipment, refers to said IP address/FQDN correspondence database and replies

the FQDN corresponding to said IP address to said packet transfer equipment.

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51. A program to have a computer function as a DNS server provided with an IP address/FQDN correspondence database where the IP address corresponding to the FQDN and the FQDN corresponding to the IP address are registered and the FQDN or the IP address in the packet transfer equipment that transfers the received packet to another node uniquely indicating one or more type of information in said received packet determined for each of said received packet and the FQDN or the IP address uniquely indicating one or more type of information related to the transfer method of said received packet are associated comprising:

15 a function that accepts the IP address resolution request inquiring the IP address corresponding to the FQDN from the packet transfer equipment that transfers the received packet to another node, refers to said IP address/FQDN correspondence database and replies the IP address corresponding to said FQDN to said packet transfer equipment, and

20 a function that accepts the FQDN resolution request inquiring the FQDN corresponding to the IP address from said packet transfer equipment, refers to said IP address/FQDN correspondence database and replies the FQDN corresponding to said IP address to said packet

25 transfer equipment.

52. A program to have a computer function as a DNS server provided with an IP address/FQDN correspondence database where the IP address corresponding to the FQDN and the FQDN corresponding to the IP address are registered and the FQDN or the IP address in the packet transfer equipment that transfers the received packet to another node uniquely indicating one or more type of information contained in said received packet and the FQDN or the IP address uniquely indicating several types of information related to the transfer method of said received packet are associated comprising:

10 a function that accepts the IP address resolution request inquiring the IP address corresponding to the FQDN from the packet transfer equipment that transfers the received packet to another node, refers to said IP address/FQDN correspondence database and replies the IP address corresponding to said FQDN to said packet transfer equipment, and

15 a function that accepts the FQDN resolution request inquiring the FQDN corresponding to the IP address from said packet transfer equipment, refers to said IP address/FQDN correspondence database and replies the FQDN corresponding to said IP address to said packet transfer equipment.

53. A program to have a computer function as a DNS server provided with an IP address/FQDN correspondence database where the IP address corresponding to the FQDN and the FQDN corresponding to the IP address are registered and the FQDN or the IP address in the packet transfer equipment that transfers the received packet to another node uniquely indicating one or more type of information contained in said received packet and the FQDN or the IP address uniquely indicating one or more type of information related to the transfer method of said received packet that is determined for each of said received packet are associated comprising:

10 15 a function that accepts the IP address resolution request inquiring the IP address corresponding to the FQDN from the packet transfer equipment that transfers the received packet to another node, refers to said IP address/FQDN correspondence database and replies the IP address corresponding to said FQDN to said packet transfer equipment, and

20 25 a function that accepts the FQDN resolution request inquiring the FQDN corresponding to the IP address from said packet transfer equipment, refers to said IP address/FQDN correspondence database and replies the FQDN corresponding to said IP address to said packet transfer equipment.